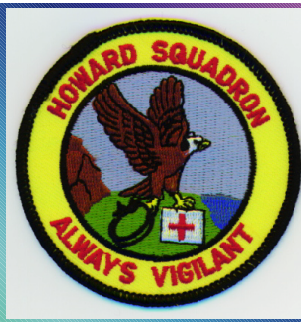




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AEROSPACE EDUCATION

**Prof
Dava
Newman**



Human Space Exploration from MIR to Mars

In perhaps the best yet example of the benefits offered by our new meeting venue, the Squadron was recently treated to an AIAA sponsored presentation at APL on microgravity by Prof. Dava Newman, a MacVicar Faculty Fellow at MIT.

Summarizing the experiences on MIR and ISS with respect to EVA and IVA under zero-g, Dr. Newman showed how actions were measured and discussed the remarkable adaptivity of astronauts to zero-g life. The challenge of long term space flight was posed in the context of bone loss and mission risk due to skeletal failure. The detailed exposition of synergy between laboratory methods and computer modeling demonstrated the serious view of these studies taken by the whole aerospace community.

Moving on to comparative gravity studies, Dr. Newman reported on a peculiar advantage of Martian gravity — on Mars the "lunar lope" gait adopted by Apollo crew is more efficient than walking. On Earth and Moon, this gait is less efficient. Methods for the prevention of bone loss, to include artificial gravity and drugs, were also discussed.

— Near Earth Asteroid Rendezvous Mission

LtC Kevin Redman discussed his personal experiences in the launch environment simulation for the spacecraft at NASA Goddard and summarized the APL NEAR mission sequence. The landmark mission was a seven year effort by our sponsor laboratory and represents a fine paradigm for the kind of quality needed, e.g. at Mars.

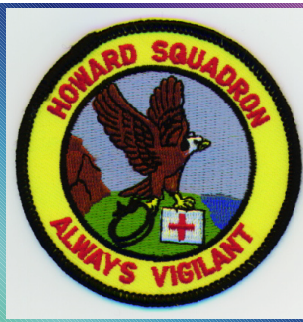


**LtC
Kevin
Redman**





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Field Trip to BWI

"It's like a small city," said Ruth Epstein our volunteer docent for the tour. Indeed BWI is equipped with its own jail (we left none behind in the four lock-ups), assorted medical services, foreign language interpreters, and a USO facility. The USO is visited by up to 50,000 servicemen annually and is always ready for more volunteer help (you get free parking). The activity has four main corporate sponsors, Lockheed-Martin among them.

Community Support in Aerospace

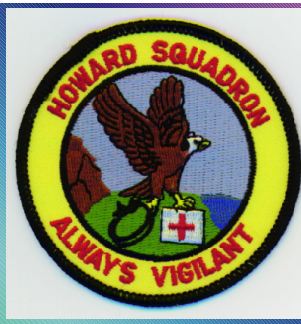
The **Engineering Challenges** are a series of competitions for groups of students in Grades 1-12, sponsored by the Engineering Society of Baltimore, Baltimore Museum of Industry, and the Technology Education Association of Maryland, design to introduce young people to the role of Engineer in today's society. Although most entries are from schools, both public and private, they welcome entries from clubs of all types, or even individual families.

This quarter Howard Squadron had a substantial group of helpers at both such challenges, in mid February and once again in late March. The earlier was for elementary school ages and focused on glider models. The most recent was for high school ages and involved electrically powered tethered models that were to carry cargo. As an example of the quality involved, the 2001 winner in the cargo models was "Dragon Flight", from C. Milton Wright high school in Harford county. Itself reminiscent of a dragon fly, this machine offered 324 sq. in. of wing area, contained in just 4.1 oz of airframe and power plant mass. It could loft more than its own weight, an additional 5.3 oz!



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Howard Ground Team Training

The February Wing ES weekend was well attended by Squadron members. The training opportunities included radio operator, air crew and ground team skills.

In early March Howard Squadron enjoyed a day of Ground Team Skills Checks. Ground team trainees learned about search lines, shelter building, target identifications, and natural hazards. We were also treated to truly perverse ELT beacon to be hunted down. The hilly terrain of the McKeldin area and a few metal buildings provided ample evidence of how signal reflections can deceive a search party.

Unfortunately this sort of training does get used...

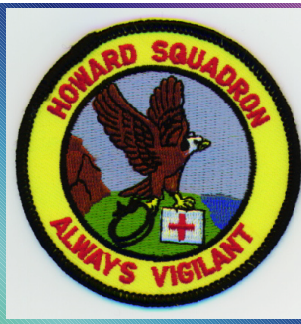
Emergency Services Mission Support

On January 23, 2001, about 1630 Eastern Standard Time, a Whittman Tailwind DN-1 homebuilt airplane, N911N, was substantially damaged while maneuvering near Grafton, West Virginia. The certificated commercial pilot was fatally injured. Visual meteorological conditions prevailed for the flight that departed Allaire Airport (BLM), Belmar, New Jersey; destined for Mason County Airport (3I2), Point Pleasant, West Virginia. When the wreckage was recovered, the inspector instructed the salvage crew to invert it, in an attempt to drain fuel from the tank, but no fuel flowed from the tank. The airplane's emergency locator transmitter (ELT) did not have a battery installed. A West Virginia Civil Air Patrol (CAP) team of youths found the wreckage "hidden in plain view." Howard Squadron's LtC Kevin Redman coordinated the Maryland air search which extended to 49 sorties and 36 search hours.





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Activities and Achievements

Promotions & Awards

Cadets: D. Wainland and J. Widmer attended the NCO school March 16-18. D. Wainland also participated in the Cadet Speak-off at Fort Meade. His talk, "Genesis of the 747", won 3rd place in the advanced competition. The squadron congratulates **Cadet Avi Chandra**, as our "**Cadet of the Quarter**". Promotion actions are **Widmer to Rickenbacker; Christensen to Lindberg; Chandra to Lindberg; D. Haack to Lindberg; Verble to Curry; Hudson to Arnold; Wainland to Lindberg.**

Seniors: The squadron welcomes Pat Wainland as a new Cadet Sponsor Member, and congratulates **2nd Lt Jason Kerpelmann** on his promotion. Congratulations are also in order to **LtC Kevin Redman** upon his receipt of two **Commander's Commendations** as Wing Emergency Services Officer during the missing person search last summer and actions during the November Virginia mission.

Web Site
(hcs.mdwg.
cap.gov)

The Squadron "Always Vigilant" patch has been equipped with a pointer to its history. This distinctive emblem has been a request of two CAP patch collectors in recent months. The Yahoo!Groups web sites have also received many basic forms and announcements under the "Files" category.

**Quarterly
Order
of the
Wingnut**

Won by "Wings of Mercury" the most beefy model at 7.1 oz from the Engineering Challenge. Living up to the more unfortunate interpretation of its name, this game bird never quite achieved liftoff.

